



#9  
6/25/99  
P. Jean

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re-Application of Eric BENAZZI et al

Serial n° 09/103,528  
Filed : June 24, 1998

Group Art Unit :1755  
Examiner : SAMPLE, D.

**For : EU-1 ZEOLITE CATALYST AND A PROCESS FOR IMPROVING THE POUR POINT OF FEEDS CONTAINING PARAFFINS**

**DECLARATION UNDER 37 C.F.R. §1.132**

Honorable Commissioner of  
Patent and Trademarks  
Washington, D.C. 20231

Sir :

I, Germain MARTINO, being duly warned, declare and say as follows :

THAT, I am a French citizen holding the titles of Licencié es Sciences delivered by "Faculté des Sciences de l'Université de Strasbourg" in 1961, of Engineer delivered by the French "Ecole Nationale Supérieure du Pétrole et des Moteurs" in 1963, of Docteur es Sciences delivered by "Université de Louvain" in Belgium in 1965, residing at 78300 POISSY, France, 80, avenue Lefebvre.

THAT, I have been engaged on researches relating to catalytic agents and catalytic reactions by the Institut Français du Pétrole, in their Research Department since 1967, that I was, from January 1985 to September 1989, the Manager of the Research Division Kinetics and Catalysts, I was from September 1989 to December 1997, the Assistant Manager of the whole Refining and Petrochemical Division, and that I am, since December 1997, the Manager of the whole Refining and Petrochemical Division.

THAT, I am familiar with the processes and catalysts.

THAT, I have supervised the following examples :

#### **Preparation of catalyst C'4**

Zeolite EU-1 is synthesized according to the synthesis procedure of example 1 in Casci patent (US-4,537,754) using the conditions of example 5 in Casci, except that  $\text{SiO}_2 = 130$  in the reaction mixture.

The calcined product is then treated as in example 2 in Casci for obtaining a EU-1 product under hydrogen form.

As in example 4 of the present Application SN. 09/103,528, the obtained zeolite was mixed with SB3 type alumina from Condéa. The mixed paste was extruded through a 1.4 mm die. The extrudates were then calcined at 500°C for 2 hours in air then dry impregnated with a solution of platinum tetramine chloride  $[\text{Pt}(\text{NH}_3)_4]\text{Cl}_2$ , and finally calcined in air at 550°C. The platinum content in the final catalyst C'4 was 0.7% by weight and the zeolite content, expressed with respect to the ensemble of the catalyst mass, was 80% by weight.

The hydrogen product shows a  $\text{SiO}_2/\text{Al}_2\text{O}_3$  molar ratio equal to 60.5 as measured.

#### **Evaluation of catalyst C'4**

Catalyst C'4 is evaluated by treating a hydrocracking residue from a vacuum distillate as in example 5 of the present Application SN. 09/103,528.

The characteristics of the oil obtained are reported in the following table and compared to those obtained with catalyst C4 according to the present application :

Table

	Catalyst C'4 prior art	catalyst C4 invention
viscosity index	119	120
pour point (°C)	-16	-20
oil yield (wt %)	73	77

THAT, the results show that dealuminated EU-1 zeolite according to the present Application shows improved pour point (gain of 4°C) and oil yield (gain of 4%) for a similar viscosity index, compared to EU-1 zeolite having a similar  $\text{SiO}_2/\text{Al}_2\text{O}_3$  ratio but which has not been dealuminated after synthesis.

The undersigned declares further that all statements are made herein of this own knowledge are true and that all statements made on information and belief are believed to be true ; and further that these statements are made with the knowledge that willful false statements and the like so made were punishable by fine or imprisonment, or both under Section 1001 Title 18 of United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Rueil, June 1, 1999

  
Germain MARTINO